

CLAIMS

(As Amended under PCT Article 34)

1. (Amended) An image reading apparatus comprising:

5 a substrate which has an obverse surface provided with a plurality of light sources arranged in a row;

a case including a hollow portion extending along the row of the light sources for guiding light emitted from the light sources toward an image read line; and

10 a lens array for forming an image of a document onto a plurality of light receiving elements arranged in a row, the document being disposed to face the image read line;

wherein the image reading apparatus further includes a plurality of partitions for dividing the hollow portion

15 longitudinally into a plurality of individual sections; and

wherein each of the light sources is confronted by a surface for blocking light emitted from the light source.

2. The image reading apparatus according to claim 1, wherein

20 the partitions are integral with the case.

3. The image reading apparatus according to claim 1, wherein

the partitions are arranged at a substantially constant pitch longitudinally of the hollow portion, the light sources being

25 equally allocated to the individual sections.

4. The image reading apparatus according to claim 1, wherein each of the partitions has light-reflective surfaces.

5. The image reading apparatus according to claim 4, wherein 5 the partitions are white.

6. The image reading apparatus according to claim 5, wherein a plurality of surfaces defining the hollow portion as well as portions of the obverse surface of the substrate facing 10 the hollow portion are also white.

7. The image reading apparatus according to claim 6, wherein the case is made of white resin.

15 8. The image reading apparatus according to claim 7, wherein the plurality of light receiving elements are disposed on the obverse surface of the substrate, the image reading apparatus further including a reflection preventing member surrounding the light receiving elements.

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10. The image reading apparatus according to claim 1, wherein the obverse surface of the substrate is provided with 25 auxiliary elements, at least selected ones of the partitions covering the auxiliary elements.

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11. The image reading apparatus according to claim 10', wherein each of the auxiliary elements projects from the obverse surface of the substrate, each selected partition being formed, at a portion covering the auxiliary element, with a recess for receiving the auxiliary element.

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12. The image reading apparatus according to claim 1, wherein the case includes a groove for receiving the lens array, the case being provided with a transparent plate which has an obverse surface providing the image read line; and

wherein the transparent plate has a reverse surface formed with a projection for engagement with the lens array for forcing the lens array toward a bottom of the groove.

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13. The image reading apparatus according to claim 12, wherein the lens array comprises a plurality of lenses arranged in a row and held in an elongated holder, the projection extending longitudinally of the holder for engagement therewith.

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14. The image reading apparatus according to claim 12, wherein the case is formed with an opening in which the transparent plate is fitted, the transparent plate and side walls defining the opening being respectively provided with at least one pair of engagement means for preventing the transparent plate from moving far away from the lens array.

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15. (Amended) An image reading apparatus comprising:

a substrate which has an obverse surface provided with a plurality of light sources arranged in a row;

a case including a hollow portion extending along the row of the light sources for guiding light emitted from the light sources toward an image read line; and

a lens array for forming an image of a document onto a plurality of light receiving elements arranged in a row, the document being disposed to face the image read line;

10 wherein the image reading apparatus includes a pair of wall surfaces defining longitudinally opposite ends of the hollow portion, at least part of each wall surface being a light-reflective surface;

15 the image reading apparatus further comprising a complementary member which is separate from the case but is mounted in the case, the complementary member having outer surfaces which are at least partially white, part of the complementary member serving as the light reflective surface.

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16. The image reading apparatus according to claim 15, wherein the light reflective surface is white.

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17. The image reading apparatus according to claim 15, wherein the hollow portion provides a space between the image read line and the lens array, the light reflective surface being oriented into the space.

18. (Deleted)

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18 19 (Amended) The image reading apparatus according to claim
14 15, wherein the case includes a groove for receiving the lens
5 array, part of the complementary member being disposed
between the lens array and the image read line to prevent the
lens array from coming out of the groove.

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19 20 (Amended) An image reading apparatus comprising:

10 a substrate which has an obverse surface provided with
a plurality of light sources arranged in a row;

a case including a hollow portion extending along the row
of the light sources for guiding light emitted from the light
sources toward an image read line; and

15 a lens array for forming an image of a document onto a
plurality of light receiving elements arranged in a row, the
document being disposed to face the image read line;

wherein the image reading apparatus includes a pair of
wall surfaces defining longitudinally opposite ends of the
20 hollow portion, at least part of each wall surface being a
light-reflective surface;

wherein the case includes a groove for receiving the lens
array, the case being provided with a transparent plate which
has an obverse surface providing the image read line; and

25 wherein the transparent plate has a reverse surface
formed with a projection for engagement with the lens array
for forcing the lens array toward a bottom of the groove.

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21. (Added) An image reading apparatus comprising:

a substrate which has an obverse surface provided with a plurality of light sources arranged in a row;

5 a case including a hollow portion extending along the row of the light sources for guiding light emitted from the light sources toward an image read line; and

a lens array for forming an image of a document onto a plurality of light receiving elements arranged in a row, the document being disposed to face the image read line;

10 wherein the image reading apparatus further includes a plurality of partitions for dividing the hollow portion longitudinally into a plurality of individual sections; and

15 wherein the obverse surface of the substrate is provided with auxiliary elements, at least selected ones of the partitions covering the auxiliary elements.

22. (Added) An image reading apparatus comprising:

a substrate which has an obverse surface provided with a plurality of light sources arranged in a row;

20 a case including a hollow portion extending along the row of the light sources for guiding light emitted from the light sources toward an image read line; and

25 a lens array for forming an image of a document onto a plurality of light receiving elements arranged in a row, the document being disposed to face the image read line;

wherein the image reading apparatus further includes a plurality of partitions for dividing the hollow portion

longitudinally into a plurality of individual sections; wherein the case includes a groove for receiving the lens array, the case being provided with a transparent plate which has an obverse surface providing the image read line; and

5 wherein the transparent plate has a reverse surface formed with a projection for engagement with the lens array for forcing the lens array toward a bottom of the groove.